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The Impact of Computer and Communications Technology on Recruiter Productivity and Quality of Life

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14. ABSTRACT

This research addresses examines the effectiveness of Recruiters when given high-tech tools and the cost effectivenss of providing high tech tools. In order to test the effect of high-tech tools on the behavior and productivity of recruiters, an experiment was designed and executed. A test group of recruiters was given a set of tools, which included state of the art laptop computers, computer projection equipment, communications and database software, Internet and Intranet connections, cellular telephones, and second telephone lines into their residences. A control group within a similar recruiting environment, without these tools, would provide a basis for comparison against the test group. Additionally, data was collected before the issue of the equipment and one-year after the issue of the equipment to control for changes in general recruiting conditions.The conclusions that can be drawn from this study are more about the design and implementation of a new technology than about the changes in productivity resulting from the tools. As a result this research concerns recruiter

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Foreword

The Office of Naval Research (ONR) funded this effort, under the Program Element number PE 0603236N, sponsored by Commander, Navy Recruiting Command. The objective of this research addressed the use of high-tech tools and changes in productivity due to the use of high tech tools. The authors wish to thank the funding sponsor, the Office of Naval Research, project sponsors, Mr. John Noble and Mr. Don Bohn for their assistance in this project. A number of subject matter experts at various recruiting stations and recruiting districts provided invaluable assistance in collecting the survey data and providing day to day oversight of the survey protocol.

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Acting Director

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Executive Summary

In 1998 there were approximately 3,700 Navy recruiters nationwide who were responsible for locating, contacting, and selling the Navy to potential applicants in an effort to meet a 55,000 recruit accession mission. Facing a youth population with a decreasing propensity to enlist coupled with historically low unemployment rates, Commander, Navy Recruiting Command, (CNRC), was experimenting with new and innovative ways to meet increasing accession missions. CNRC needed to identify new methods that had the potential to increase recruiter productivity. Prior to 1998, recruiting at the tactical level had not leveraged advances in communications, audiovisual display techniques, computers and telemarketing techniques. This research proposed a possible solution by leveraging these advances in information technology.

Research in the area of recruiter productivity is vital to the Navy in light of increasingly challenging accession missions. The use of sophisticated equipment as an aid in achieving these missions is clearly a great strength of the U.S. Navy. However, applying this technology prior to 1998 lagged in the recruiting area. While recruiting remains primarily a job of salesmanship, recruiting efficiency may be increased through the use of technological tools by recruiters. This research addresses two basic questions:

1. Are recruiters more effective when given high-tech tools?
2. Are changes in productivity due to the use of high tech tools sufficient to justify the expense?

In order to test the effect of high-tech tools on the behavior and productivity of recruiters, an experiment was designed and executed. A test group of recruiters was given a set of tools, which included state of the art laptop computers, computer projection equipment, communications and database software, Internet and Intranet connections, cellular telephones, and second telephone lines into their residences. A control group within a similar recruiting environment, without these tools, would provide a basis for comparison against the test group. Additionally, data was collected before the issue of the equipment and one year after the issue of the equipment to control for changes in general recruiting conditions.

The conclusions that can be drawn from this study are more about the design and implementation of a new technology than about the changes in productivity resulting from the tools. As a result this research concerns recruiter behavior more than changes in productivity. In many cases, recruiters did not utilize the tools in ways that increased the number of contacts made or the time spent with contacts. While this finding might seem counter intuitive, this result is frequently observed as a new technology is introduced into the workplace.

The broad conclusion that this study provides is that it takes time to incorporate a new technology into an organization. The time it takes for a particular organizational culture to accept and fully incorporate the benefits provided by that technology are much longer than expected. In the case of information technology in the workplace there is evidence that the introduction of the technology is at first counter productive. It is our conclusion that this research, especially in the data collection phase, captures that counter productivity.

As we observe a second generation of recruiters embracing the tools of information technology to enhance their recruiting efforts, it is necessary to look beyond the data presented

here and learn from the lessons of this research, which are strong and continued command support and buy-in through the duration of the research project, the necessity of a well developed training and implementation plan, and need for the subjects to understand the research objectives and the long run benefits of adhering these objectives.

Project History

This project began as a result of requirements submitted by Commander, Navy Recruiting Command (CNRC) in September 1995. [1] The Navy Personnel Research and Development Center (NPRDC) responded to these requirements, submitting a Technical Development Plan (TDP) entitled, *"Computer and Communications Technology for Recruiting (CCTR)."* The TDP outlined a broad array of deficiencies regarding recruiting. The goal of the research project was to study the impact of computer and communications technology on recruiter performance, efficiency, and quality of life. The funds for a research project were approved, the study was designed by NPRDC and implemented in conjunction with CNRC. A significant portion of the research cost was directly applied to providing technological tools to a test group of recruiters. Data was collected before and after the provision of the equipment through two survey instruments, the "Navy Survey of The Remote Recruiting Experiment," (see Appendix C) and a set of time allocation sheets (see Appendix D).

The Boston Navy Recruiting Command was chosen as the initial test site. Perfunctory command support necessitated that the Boston study be terminated.[2] An alternative test site, the San Diego Recruiting District was chosen. It was determined that the close proximity of the San Diego Navy Recruiting District (NRD) to NPRDC would likely generate relatively greater Command support and allow NPRDC greater oversight over the implementation and execution of the project.

Recruiters chosen from two zones within the San Diego NRD completed both instruments. As the objective of this study was to ascertain the effect of technology on recruiter productivity and quality of life, data from a control and an experimental sample were drawn. The control group, Zone 1, consisted of Barstow, Fontana, Redlands, San Bernadino, Upland, and Victorville. Similarly, the experimental group, Zone 5, was comprised of Corona, Fullerton, Indio, Morena Valley, Riverside, and Temecula. In order to capture the impact of technology on recruiter productivity and quality of life, paper and pencil surveys were administered to both zones at the start of the project and again at its completion. This report is limited to the conclusions that can be drawn from this data.

[1] The authors of this report were responsible only for the analysis of received data collected under this study by employees of NPRDC. The authors of this study were not responsible for determining the study objectives, survey design, survey implementation, survey execution and data collection.

[2] See Appendix A for a more detailed explanation on the Boston pilot study.

Project Planning and Implementation

Research Goals

The primary research objective of this study was to test two broad hypotheses. The first hypothesis of interest was to ascertain the impact of technology on recruiter productivity.[3] Prior to the execution of this project recruiters' access to technology support was limited to office phones and desktop personnel computers. It was believed that the provision of time economizing support tools would increase recruiter productivity, that is the number of generated contracts per labor hour. While the private sector has long recognized the value of technology as a means to increase employee productivity, the idea of providing military personnel with cell phones, laptops, email access, and electronic scheduling, for example, was a huge shift in institutional policy. The intent of this study, in part, was to provide to CNRC the costs-benefits of providing such technology.

The second hypothesis of interest was the relationship between the use of technology and recruiter quality of life. It was hypothesized that technology would economize on time thereby allowing a decrease in labor hours and an increase in the number of leisure hours. As the Navy has a vested interest in retain high quality personnel, any enhancement to Recruiter quality of life would likely improve the negative perception often attributed to what is often non-voluntary recruiting duty.

Provision of Equipment

In an effort to tests the hypothesizes, beginning in October 1998, thirty Recruiters within the experimental testing site were equipped with the following technology tools and services:

- Toshiba Multimedia Notebooks (133MH and 200MH Pentium Processors)
- Windows NT and MS Office 97 software
- RTOOLS 4.0
- Cannon portable color printer
- Motorola and Nokia cellular phones
- One-way Skytel alphanumeric pagers
- Earthlink email accounts
- Dedicated in home phone line with answering machine
- CD-ROM sales presentation (TEAMS)
- Electronic version of the *Enlisted Recruiting Manual*
- Technical support through Toshiba
- CPU computer repair

[3] For the purposes of this study technology is defined as the provision of cell phones, laptops, electronic scheduling or RTOOLS, dedicated in-house phone lines, email, and various software.

- Training

In addition, the recruiting stations located in the experimental test zone received government vehicles, a Proxima projection system, videophones and PC-Anyware software.

In exchange for their participation, all hardware and software tools provided to the Recruiters and recruiting stations were to remain within the San Diego NRD after the completion of the study.[4]

Equipment Costs

Table 1 provides a break out of the estimated costs, in 1998 dollars, of providing recruiters in the test site with tools and services.

Table 1. Equipment Costs in 1998 Dollars

Equipment Type[5]	Costs Per Recruiter	Total Cost*
Hardware and software	$4,001.00	$120,030.00
Home office setup costs	$ 250.00	$ 7,500.00
Cell phone/pager monthly charges 12-month period	$1,200.00	$ 36,000.00
In-house Phone Line 12 month period	$ 600.00	$ 18,000.00
Email Services 12 month period	$ 400.00	$ 12,000.00
Total Cost of Fully Equipped Recruiter[6]	$6.451.00	$193,530.00

* Total Costs are based on equipping 30 Recruiters. Estimated costs do not reflect training costs.

Other costs included ADP support at $2500 per quarter and equipping recruiting stations at a one-time cost of $1413.00 per station. In addition, the San Diego NRD received additional benefits from this project in the form of electronic sales presentations (TEAMS) and an electronic version of the *Enlisted Recruiting Manual.*

Plan of the Research

The central objective of this project was to ascertain if providing recruiters with access to cell phones, laptops and email, or broadly "telecommunications," would increase recruiter productivity, efficiency, and/or quality of life. By providing recruiters with technology that was portable it was argued that this would reduce office-bound administrative work allowing recruiters to capitalize on downtime in the field. Further, recruiters with access to mobile technology could reallocate the otherwise unproductive time used to travel to the office to a more productive use such as prospecting.

4 By agreement, payment for continued services such as cell phone, email, training, and technical support were to be assumed by the San Diego NRD after the study was completed.

5 Portable scanners, speakers, and portable printers were also provided to the Recruiters, however, expenditure data on these purchases are unavailable.

6 The number of government provided vehicles and associated costs are not available.

The plan was to equip and train a test group of recruiters in the use of computer and communication equipment while leaving a control group without such tools. Further, the data collection, which included both the survey instruments and time allocation sheets, would be administered to both the control and test group, before the introduction of the new equipment, periodically during the study, and again after one year of use. The differences in behavior between the test group and the control group, as well as the change in behavior of the test group after one year, was intended to identify the effects of the equipment on recruiter effectiveness and quality of life.

In March of 1998 a baseline survey and time allocation sheets were administered in San Diego. Recruiters in the two San Diego recruiting zones were provided with training on the use of the technology and the implementation of the equipment was initiated and completed in May–April of 1998.

Implementation of the Project

The plans for the procurement and installation of equipment and software, as well as the training of recruiters and supervisors, were a significant organizational challenge. The actual implementation of the plans involved some deviations from the written plans, and the problems of implementation led to actions, which reduced the quality of the data for the purpose of making inferences.

A major implementation problem was that the control group was supplied with some of the same tools as the test group. This prevents the analysis of behavior between control and experimental groups, and eliminates most of the statistical power embedded in the research design.

The loss of the control group was fatal because the surveys were designed to be anonymous. The reason for anonymity is that recruiters' work is closely scrutinized and may result in punitive actions. Therefore, to protect the recruiters and increase honest responding, the surveys were anonymous. This decreased the power of the research since only group differences between the control and experimental groups could be statistically evaluated. Further, when the control group was compromised virtually all of the statistical power of the research was lost.

Analysis of Received Data

The Three Hypotheses Studied

Three hypotheses were identified for which inferences may be made from the data. As discussed in the technical development plan, "To successfully compete in the marketplace, Navy recruiters must reduce administrative time and increase contact time with potential new recruits. More time spent filling out forms and paperwork implies less time wooing new customers." Therefore, the data will be analyzed to identify whether the use of the provided technology 1) reduces administrative time, and 2) increases contact time. Further, recruiter quality of life (QOL) may improve due to the reduction in tedious paperwork and increase in the quality of professional tools with which the recruiter carries out his/her assignment. Therefore, the third hypothesis to be tested will be whether the technological tools increase recruiter QOL.

The nature of the data does not allow the use of multivariate models for the reasons previously described. However, univariate analyses of the data can be utilized to make inferences about the potential effects of technology on recruiter behavior. Therefore, the questions on the survey will be individually tested to determine whether recruiter behavior changed after the implementation of the new technology tools.

Interpreting the Results

The primary form of statistical test employed was a test of the distribution of answers. The particular test employed, the Wilcoxon Two-Sample test, is similar in spirit to the familiar 't-Test of Population Means.' However, instead of testing to determine if the population *mean* of the two samples is in a different location, the Wilcoxon test asks whether the population *distributions* are different in their location. Because the mean is a single measure of the 'center' of a distribution, a difference in location of the center is therefore a difference in the location of the distribution. The conventional t-Test deals with the location of the mean, but the Wilcoxon test deals with the overall distribution without directly being restricted to statements about the mean. Because the conclusion of the Wilcoxon test refers to this difference in location on the number line, the results are stated as, "Distribution A lies to the right of Distribution B," or equivalently, "The Distribution of B is 'larger' than the Distribution of A."

As an example of how to interpret such a test, consider the question of how many sales presentations were made by recruiters in a one-month period. The answers from all recruiters in April of 1998 form the population distribution for 1998, and the answers from all recruiters in April of 1999 form the population distribution for 1999. Suppose that the researcher had reason to believe that the number of sales presentations increased from one year to the next. The objective of the test is to determine if the number of sales presentations showed an increase from 1998 to 1999 for the population of all recruiters (call this the 'research hypothesis'). The 'null hypothesis' would be that there was no increase in number of sales presentations. Using the sample of 30 recruiter answers in each year, a t-Test conclusion that rejected the null hypothesis and supported the research hypothesis would read, "The test showed, at the 95 percent level of confidence, that the mean number of sales presentations for 1999 was larger than the mean number of sales presentations for 1998." Using the Wilcoxon Test, the equivalent conclusion would read, "The test showed, at the 95 percent level of confidence, that the distribution of presentations for 1999 lies to the right of the distribution of presentations for 1998." A less formal statement of this conclusion would be, "We are 95 percent sure that sales presentations by recruiters increased from 1998 to 1999."

Interpretation of Confidence Levels

Because we are drawing inferences about the population from a sample, the reliability of our inferences are dependent upon how much the sample 'looks like' the population. Statistical theory provides guidelines for how often we can expect a sample to lead to incorrect inferences, and this is measured as a confidence level. Imagine if we could draw all possible samples of size 30 from each year and perform the inference in the way just described. A 95 percent confidence level, computed based upon the numbers in the samples, would be equivalent to saying that we would draw a wrong conclusion from the sample in only 5 percent of all possible samples. There are a few misleading samples out there, but we cannot know whether the particular sample we have drawn is misleading. We can only state the confidence level.

Because all statistical inferences rejecting the null hypothesis have a confidence level that can be calculated, the user of the statistical test must have some identifiable level of risk that is acceptable for decision-making. Consider this acceptable level of risk a 'cutoff' risk level, below which the user will not rely upon the research hypothesis being considered as true. The simplest method of presenting statistical results involves the statistician determining the acceptable level and then reporting the research hypothesis as either 'supported' or 'not supported.' However, when the *researcher* does not know what level of risk should be acceptable, that researcher should present the results in such a way as to let the *final user* determine for him what level of confidence should be used for the cutoff. Therefore, the results here will be presented with a confidence level for the use of the final user. Returning to the example above, if the final reader requires a 98 percent level of support in order to take action, then the above test does **not** support the research hypothesis that presentations increased from 1998 to 1999.

For the purposes of guidance, the cutoff levels used by the researcher falls into three categories: no support, weak support, and strong support. If the calculated confidence level on a particular question is less than 80 percent, the research hypothesis is not supported. If the calculated confidence level is between 80 percent and 90 percent then the research hypothesis is weakly supported. If the calculated confidence level is equal to or greater than 90 percent, then the research hypothesis is strongly supported. However, in all cases the calculated level of confidence will be reported to enable the final user to judge for him/herself whether the results support the research hypothesis.

The questions that allowed an inference on the three broad testable hypotheses were analyzed and the results reported below, grouped by the hypothesis to which they apply. The following sections will contain a statement of the question and the results of the statistical procedure that was applied. A summary of the pattern of inferences will conclude each section.

Research Hypothesis I—Reducing Administrative Time

The job of a recruiter entails a great deal of time spent executing numerous administrative duties. These duties include scheduling appointments with potential recruits, relaying information, and keeping up-to-date with the latest regulations and policies, as examples. An objective of this project was to reduce the number of hours a recruiter spends on completing administrative tasks. It was hypothesized that by providing recruiters with cell phones, laptops, access to email, and by automating scheduling across recruiters a dramatic reduction in administrative hours would be achieved. Any reduction in administrative time could then be allocated to allow for an increase the number of hours of contact time and or an increase in recruiter leisure time and thus quality of life.

Of the survey questions posed to respondents, nine questions specifically attempted to capture the impact of technology on administrative time. Table 2 contains the questions and associated confidence levels. The data reveal three interesting results. First, the provision of laptops to recruiters did increase the use of email as a means of communication. Recruiters reported that over the study period the frequency by which they communicated with their supervisors and other contacts increased. It cannot be ascertained, however, if the increase in email communication reduced administrative time. It is possible that the ease of communicating and accessibility that email provides may have actually increased the administrative duties.

Secondly, the accessibility to cell phones and dedicated in-house phone lines increased phone communication. From these results one could postulate that the availability of cell phones and a dedicated in-house phone line allowed recruiters to recapture the time spent traveling to the office to access an office phone and reallocate it to sales and contact calls. Finally, the use of CRUITMAN, an electronic version of the *Enlisted Recruiting Manual* , reduced the amount of time recruiters spent in extracting needed information from the manual.

While the accessibility to laptops, email, cell phones, and dedicated in-house lines increased the frequency of use of the technology, it appears that the availability of technology did not increase the overall level of communication between supervisor and contacts. The access to technology only changed the manner by which the communication was executed or information obtained. Regardless, the data reveals that recruiters took full advantage of the use of available technology to accomplish tasks.[7]

Table 2. Confidence Levels for Research Hypothesis I—Reducing Administrative Time

Question No.	Questions	Confidence Level (%)
14A	How many times per week do you communicate with your supervisor face to face?	42
14B	How many times per week do you communicate with your supervisor by phone?	77
14C	How many times per week do you communicate with your supervisor by e-mail?	99
15A	How many times per week do you communicate with those that you supervise face to face?	43
15B	How many times per week do you communicate with those that you supervise by phone?	95
15C	How many times per week do you communicate with those that you supervise by e-mail?	98
27	How much time per day do you spend using RTOOLS?	84
28	How much time per day do you spend locating information in the Enlisted Recruiting Manual?	93
29	How many times per week do you access the NRD bulletin board?	22

Research Hypothesis II—Increasing Contact Time

Selling the Navy is the single major function of a Recruiter. This function not only requires a great deal of administrative, time it requires an ever-increasing amount of contact time between the Recruiter and perspective recruit. A second objective of this project was to increase the contact time between Recruiters and potential recruits. It was postulated that contact time and the number of weekly contacts per Recruiter could be increased if Recruiters were provided with cell phones, laptops, and electronic sales tools. With the exception of prospecting on the Internet the results indicate that technology had a statistically insignificant impact on recruiter contact time.

[7] From the data it cannot be determined the relative rates of substitution between technologies. For example, the substitution between cell phone and office phone usage. Further, it cannot be ascertained if the technology provided allowed tasks to be accomplished more efficiently.

The results indicate the availability of laptops and electronic sales presentation materials did not have a statistically significant impact on the relative number of electronic presentations. In contrast, the number of non-laptop presentations actually rose over the study period. What cannot be teased out of the available data is what led to the rise in the number of non-laptop presentations. It is possible that the increase in non-laptop presentations can be attributed to reduced administrative time, climate and policy changes from CNRC as a result of projected recruiting shortfalls, the difficulty or perceived ineffectiveness of the TEAMS presentation, lack of computer savvy, and or a combination of one more of these factors.

It is important to note that the relative number of times recruiters prospected shopping malls, unemployment offices, and the Internet increased over the study period. In part, the increase in shopping mall and unemployment office prospecting may be attributed to the pressure placed on Recruiters to make recruiting goal during an era of recruiting shortfalls. In any event, of interest here is the increase in Internet prospecting. The availability of laptops, email, and remote dial-up access likely contributed to Internet prospecting.

The increase in Internet prospecting is likely to be a result of not only the availability of the Internet to Recruiters, but also the availability of the Internet to the youth population at large. The CNRC recruiting websites and various chat rooms provided a previously untapped access to a youth market. Recruiters took full advantage of this sales opportunity. The increasing importance of Internet as a source of marketing and sales stresses the necessity for focusing on advertising layouts in this medium.

Table 3. Confidence Levels for Research Hypothesis I—Increasing Contact time

Question No.	Questions	Confidence Level (%)
21A	During the last six months, how many times on average have you prospected in the schools each month?	51
21B	During the last six months, how many times on average have you prospected in shopping malls each month?	88
21C	During the last six months, how many times on average have you prospected at sporting events each month?	58
21D	During the last six months, how many times on average have you prospected at community events each month?	22
21E	During the last six months, how many times on average have you prospected at special Navy events each month?	43
21F	During the last six months, how many times on average have you prospected at fast food restaurants each month?	74
21G	During the last six months, how many times on average have you prospected on the internet each month?	91
21H	During the last six months, how many times on average have you prospected at the unemployment office each month?	97
22	How much time per day, on average, do you spend on phone power?	32
25	How much time per day do you spend in face to face contact with prospects?	44
26	How much time do you spend per day communicating with DEPers?	24
31A	Using a laptop, how many sales presentations do you give per week to groups?	65
31B	Using a laptop, how many sales presentations do you give per week to individual prospects?	26
31C	Using a laptop, how many sales presentations do you give per week to prospects and their families?	46
32A	How many sales presentations do you give to groups without using a laptop?	50
32B	How many sales presentations do you give to individuals without using a laptop?	19
32C	How many sales presentations do you give to prospects and their families without using a laptop?	19
33	Using a laptop, how much time do you spend giving sales presentations to groups, individual prospects, and their families?	35
34	How much time per week do you spend giving sales presentations to groups, individual prospects, and their families without using a laptop?	80

Research Hypothesis III—Increasing Quality of Life

Time Allocation Data

Overview of Time Allocation Sheets. In addition to the survey, participants were asked to complete a time allocation worksheet for each day of a given month, with different months sampled during the study. The worksheet can be seen in Appendix D. The goal of the time allocation sheet data was to provide a more accurate count of hours spent performing specific tasks. Because the daily tabulation of hours performing tasks is less prone to response error, the data from the sheets should provide a more accurate representation of time allocation than the survey, which asked the respondent to estimate the average time spent in an activity.

While the goal of the time allocation tabulation was appropriate, the design of the reporting instrument as well as the administration were problematic. The problems and limitations of the data are given below.

No Common Measures Between Instruments. While the goal of the time allocation data was to provide a more accurate measure (than the survey) of recruiter time spent performing various categories of tasks, the questions on the survey and the structure of the time sheets do not allow a test of whether the responses are different. This is because the questions on categories are sufficiently different between the survey and the time sheets as to eliminate the measurement of the same variable between the two instruments. As an example, note that the first broad category of tasks in the time allocation sheet is, "Maintain Awareness/Generate Leads." Because there is no question on the survey instrument that is very similar, the researcher does not have a way of checking the accuracy of the survey answers. The reason that the researcher would want to check the accuracy of the survey answers is that a finding of reasonably similar answers between the instruments on common variables can significantly increase the reader's confidence in the accuracy of other, non-common, variables on the survey instrument. This method of supporting the reliability of the survey would help overcome some of the other weakness in the survey instrument.

Unclear Questions or No Clarifying Instructions. The descriptions on the time allocation sheets do not provide sufficient explanation of exactly what was expected of the respondent. Time sheets labeled "Additional Information" has three categories for time spent, but does not specify whether the 'time' refers to time actually working on responsibilities related to the recruiter's job or whether this captures all time spent in a 24-hour period. There is a wide range of reasonable interpretations so the measure could mean different things across respondents. If the researcher cannot be confident that the respondents are answering the same question, any opinions derived from the data are highly questionable.

When one considers the cost of obtaining data in a study of this size, the relationship between data reliability and cost should be used in each decision related to data collection. Providing detailed written instructions (which the respondent must read carefully) and questionnaire training of respondents in how to answer certain questions are costly in terms of gathering the data. However, failure to do these things can cause the data to be sufficiently weak that the conclusions of the whole research effort are called into question.

Questions are not designed for 'Exhaustive' measures. In the analysis of how people allocate their time, the effect of substituting between activities is perhaps more important than

the measurement of total time allocated to a particular activity. In order to capture the effects of substitution, the researcher needs data, which have properties allowing the substitution effect to be accurately measured. If the listing of alternative activities is not exhaustive, the researcher cannot be sure if a reduction in time spent on a listed activity was due to simply a reduction in that activity or a substitution towards one of the unlisted activities. While listing all possibilities in specific categories is often impossible, the use of a catchall category can help recover a great deal of data usefulness. For example, the first broad question on the time allocation sheets, "Maintain Awareness/generate leads," does list a catchall subcategory "Other time spent in community." However, the second question, "Prospect for Applicants" does not contain a catchall category. If there are activities, which the recruiter performs, which are related to prospecting, but are not listed, then the total time spent prospecting is not observable by the researcher, the job of accurately accounting for behavior then becomes much more difficult.

Graphical Analysis of Time Allocation Data. The data from the time allocation worksheets was of insufficient quality to utilize statistical techniques. However, the data will be discussed using graphical techniques in order to present the information to its best extent.

As an overview of the time allocation data, Figure 1 shows a bar chart with the average daily time spent in each of the primary categories of recruiter activities. Note the average total time spent in March of 1998 was slightly above eight hours per day, and for December of 1998 the same variable averaged below five hours per day. Some variation in daily hours for different months can be expected due to the seasonal nature of recruiting.

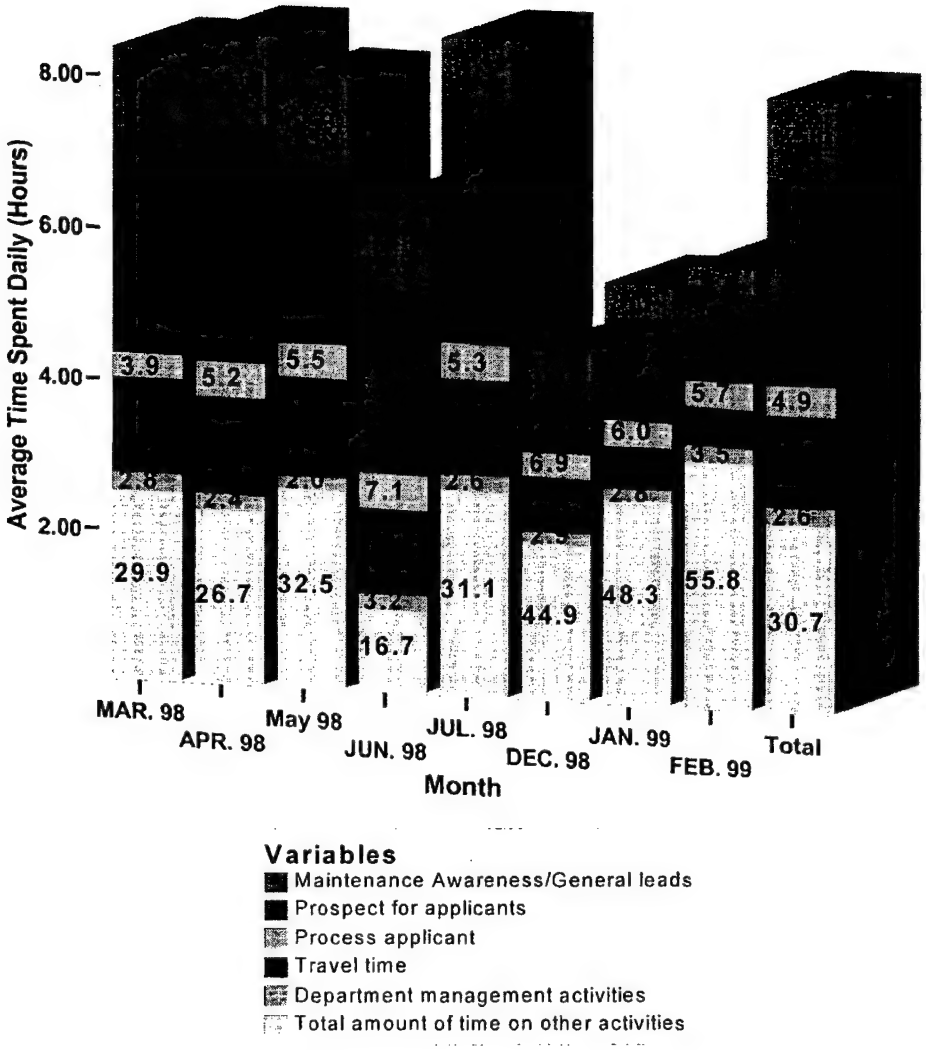


Figure 1. Time Allocation of Recruiters: Zone 1 and 5
Primary Categories of Working Activities

In addition, Figure 1 illustrates the allocation of time between the primary activities can be seen. For March of 1998, recruiters spent 14.7 percent of their day maintaining awareness or generating leads, and 33.6 percent of their day prospecting for applicants. In February of 1999, the same categories accounted for 5.5 percent and 20.6 percent of daily time on the first two categories. The large change in allocation to these two categories is cause for concern.

Within the primary categories are subcategories of activities that are included in the data. As an example, Figure 2 shows the time allocation of the subcategories of the primary category, "Maintain Awareness/Generate Leads." The figure shows the data reported from Zone 1. Comparing Figure 2 with Figure 1, the reader should note the months that are reported. The months for which the recruiters kept timesheets varied greatly between Zone 1 and Zone 5. For those months that Zone 5 does report data there is very little overlap with the months reported by Zone 1 making comparisons tenuous and perhaps leading.

Looking at figure 2, the average daily time spent for the category totaled approximately 1 hour for March of 1998. Within the category, 41.9 percent of the time was used for high school visits and 48.1 percent was used for other time spent in the community related to the primary category.

The percentage of time allocated to high school visits appears to have a cycle such that greater time is spent at high schools during the months of December and January than the months of February and March.

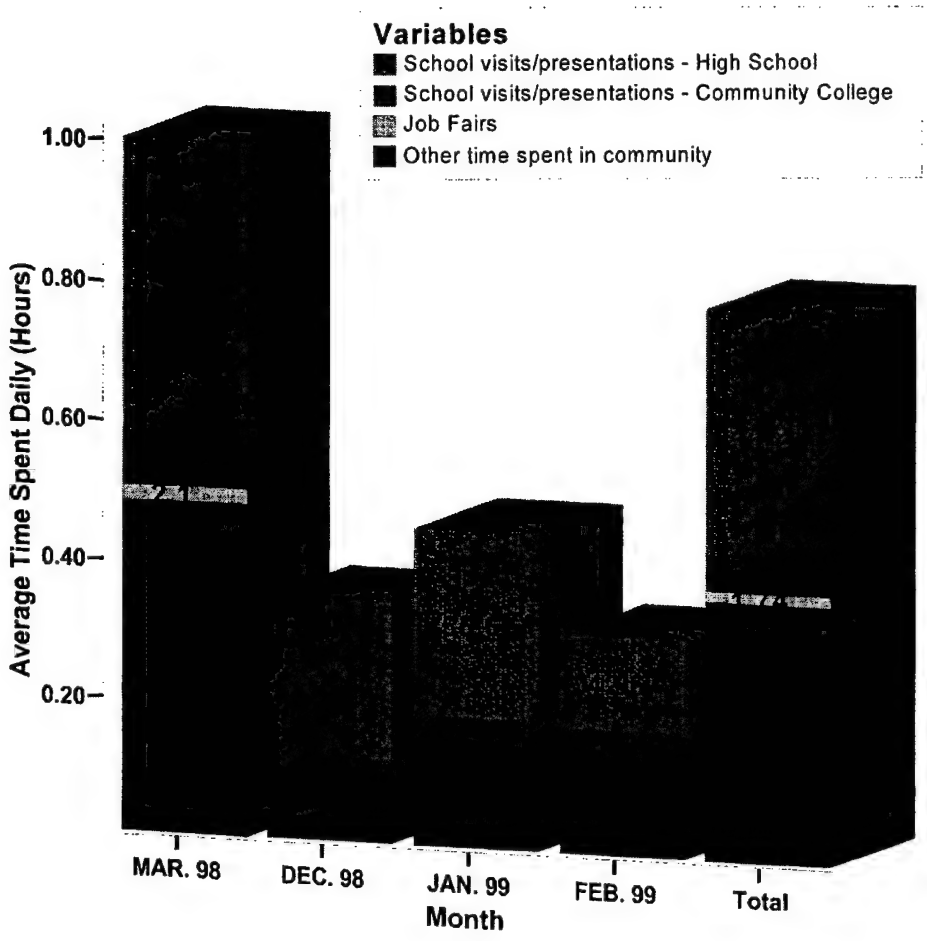


Figure 2. Time Allocation of Recruiters: Zone 1
Maintain Awareness/Generate Leads

Figure 3 shows the breakdown of how time was spent prospecting for applicants by recruiters in Zone 1. March appears to have the greatest percentage of time allocated to contacting leads with 31.1 percent, as well as having the greatest number of hours dedicated to the category as a whole. Both hours and percentages are lower for December. The drop in hours spent prospecting is consistent with the overall pattern of hours shown in Figure 1.

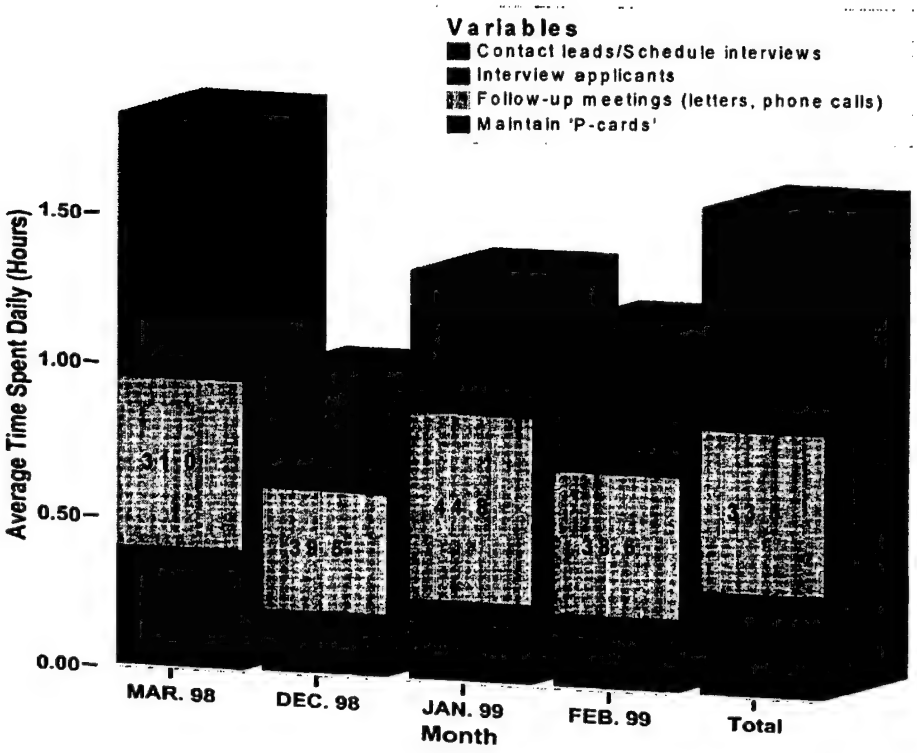


Figure 3. Time Allocation of Recruiters: Zone 1
Prospect for Applicants

Figure 4 shows the breakdown of how recruiters in Zone 1 spent time processing applicants. Following from the bigger picture provided in Figure 1, this category does not represent a large proportion of the recruiters' total work time, ranging from 3.9 percent to 7.1 percent. Within Figure 4, the absolute measures of time allocated per day are always less than one-third of an hour. This may be due to the fact that much of the preparation of enlistment forms was computerized before this experiment.

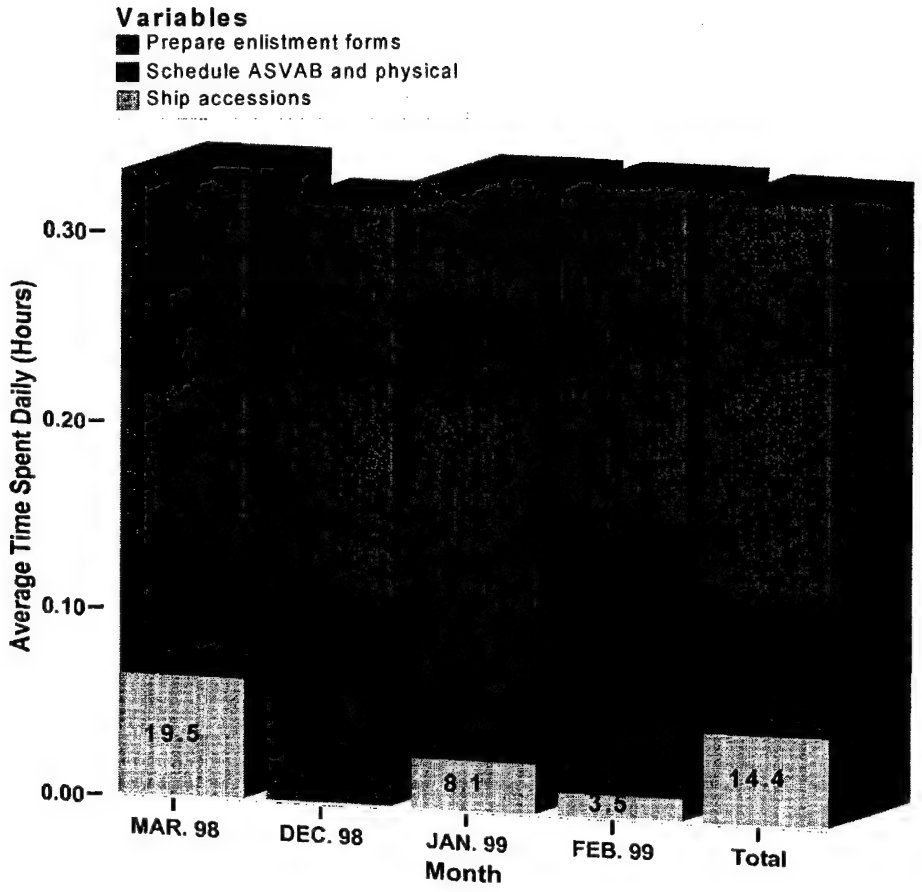


Figure 4. Time Allocation of Recruiters: Zone 1
Process Applicants

Figure 5 shows a breakdown of the primary category, "All other Activities." As can be seen from Figure 1, "All other Activities" represents one of the significant categories, ranging from a low of 16.7 percent to a high of 55.8 percent of total work time. As such, this category appears to have relatively greater opportunity to find efficiency enhancing changes. As has been mentioned before, without a series of yearly observations the researcher cannot distinguish a normal seasonal fluctuation from a trend. For example, the current graph shows an increase in "All other Activities" from approximately two hours per day in December to over three hours per day in February. It is possible that the normal seasonal increase in February would have been much larger without the use of the technological tools; however, this cannot be determined without more data to estimate the seasonal effect that is independent of the treatment effect.

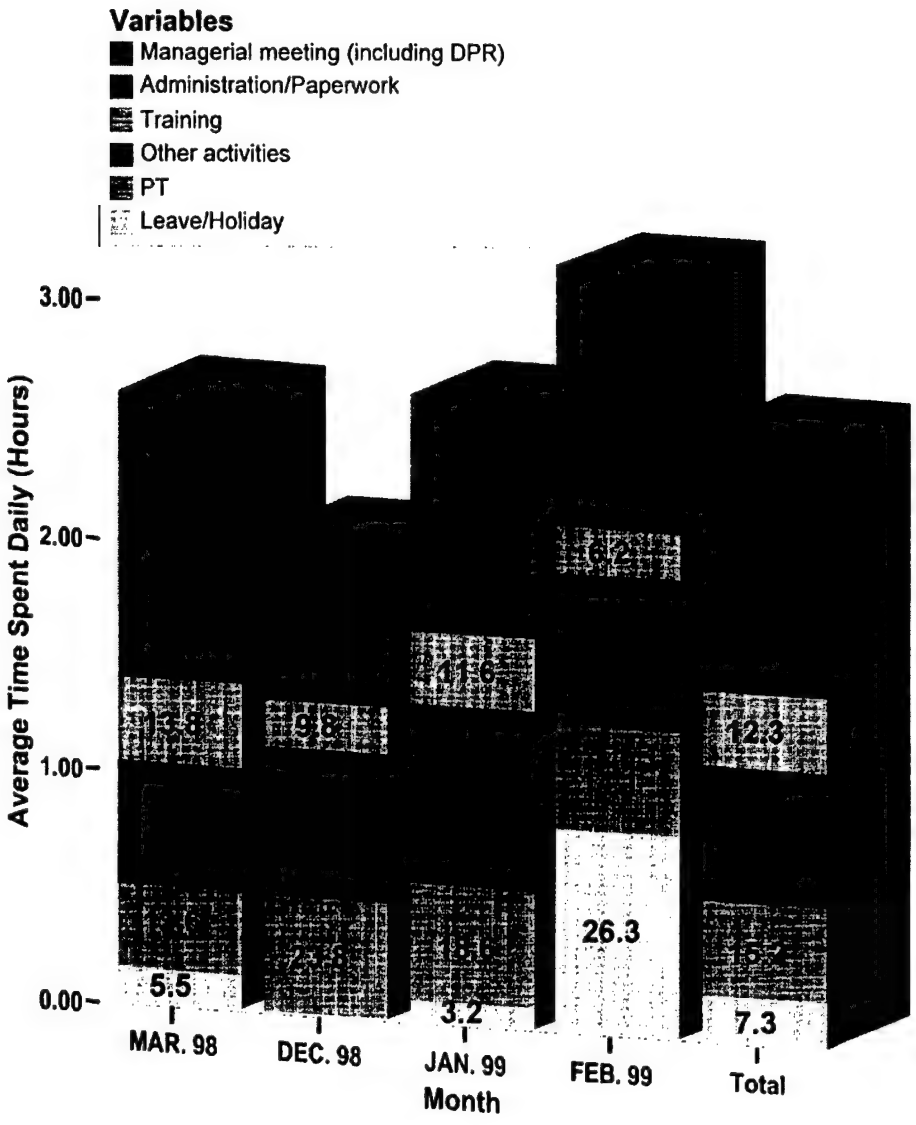


Figure 5. Time Allocation of Recruiters: Zone 1
All Other Activities

Figure 6 shows an activity that is pertinent to this study but is not an end in itself. As a part of the time sheets, the recruiters were asked under the "Additional Information" section to give information about computer usage. The pattern of usage could hardly be more dramatic as the month of March dwarfs the other months in computer usage. March 1998 was the month in

which the baseline survey was taken in San Diego, and also was the month in which recruiters were trained in how to use the computers and software. The measurement of the baseline during the training month likely overstated the amount of computer usage that would occur during normal operations. However, the overstatement in March does not necessarily cause the other months to be understated, and the usage for the other months does seem to be quite low. With an average of less than one-half hour of usage each day in the other months, the computers are not being used very intensively.

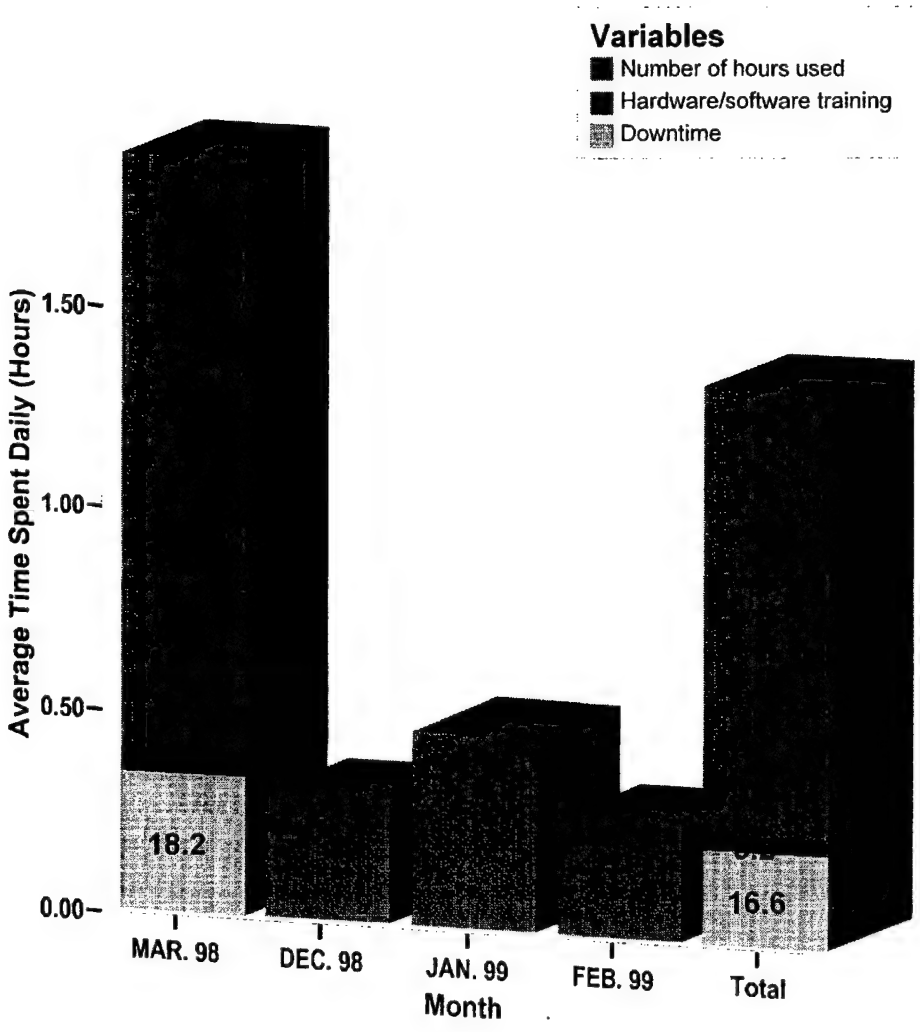


Figure 6. Time Allocation of Recruiters: Zone 1 Computer Usage

The exclusion of Zone 5 from Figures 2 through 6 was due to the lack of 1999 data from the Zone 5 time sheets. However, the disturbing results of Figure 6 indicate that at least some of the Zone 5 data be investigated to see if the pattern is remotely consistent. Figure 7 shows the computer usage for Zone 5. The first difference is that the average daily usage is above two and one-fourth hours for each of the months reported. While both Zone 1 and Zone 5 received computers, Zone 5 appears to have adopted the computers more fully. The second difference between Zone 1 and Zone 5 is that the drop in usage after the training month of March is not as dramatic for Zone 5.

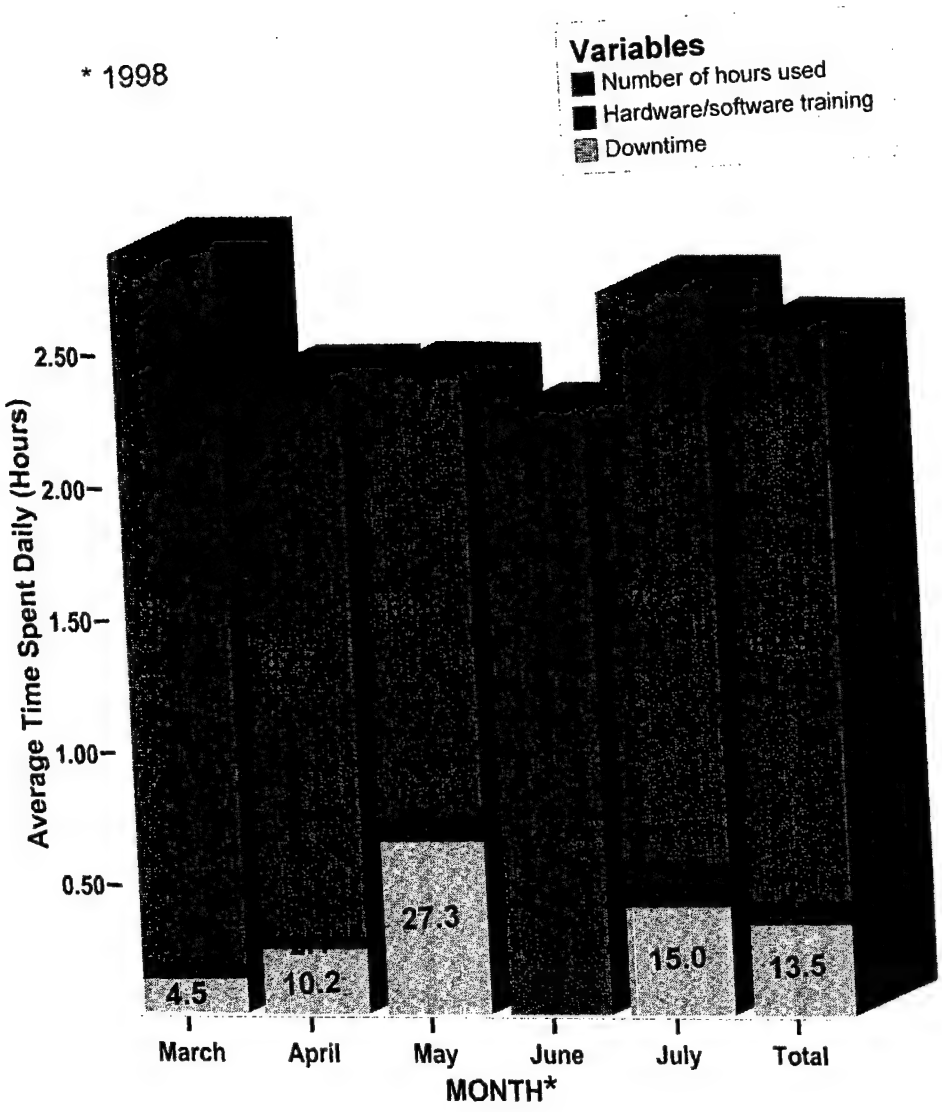


Figure 7. Time Allocation of Recruiters: Zone 5 Computer Usage

Summary of Conclusions

While the goals of the research are worthy, the design and implementation of this particular effort illustrate the difficulties of this type of research. Contamination of the control and test groups during the study eliminates the statistical power of the experimental design.[8] Moreover, failing to link the responses of individuals across assessments further degrades statistical power.

The results of this study cannot conclude that the recruiters used technology to decrease administrative time, increase contact time, and enhance recruiter quality of life. Nor can we tease out from the study the net benefits of providing Recruiters with equipment. Anecdotal evidence obtained after the completion of this study from Recruiters and the San Diego NRD Commanding Officer indicated strong support and benefits of providing technology to the field.

The Commanding Officer and Recruiters submitted that ease of access to telecommunications facilitated the prospecting and DEP tracking processes. Further, access to technology freed Recruiters from being tied down to a central office or location in order to execute their duties. Recruiters reported that the mobility that technology afforded allowed them to increase the number of contacts per labor hour. While the data does not bear this out, the perception of enhanced productivity may be the single most important outcome of this study.

Finally, this study, in part, led to an institutional acceptance, if not policy shift, of providing state of the art technology to the Navy's sales force. The Navy recognizes that the use of technology can broaden the Recruiters marketable territory. Telecommunications and Internet access allows Recruiters to recruit and track prospects from a boundless geographic area. In an era of increasing competition for the youth population, technology will play an ever-increasing role in providing a competitive edge.

[8] It is important to note that as a result of factors beyond the control of the original PI, both the control and test groups were issued laptops, government vehicles, RTOOLS, online Enlisted Recruiting Manual, and the TEAMS presentation. In addition, the original PI's could not control for the use of non-government provided technology that may have been used by the control group.

Appendix A:
The Pilot Study in Boston

The Pilot Study in Boston

An initial pilot study was undertaken in order to develop the survey instruments and gain an understanding of the difficulties that would be encountered. Within the Boston Navy Recruiting District two zones were chosen for participation; Zones 5 and 6. At the time of the New England pilot test Zone 5, the experimental zone, consisted of the following towns and their surrounding areas: Waltham, Marlboro, Milford, Woonsocket, Brockton, Quincy, Dorchester, and Boston. The control zone, Zone 6, was comprised of the following towns and surrounding areas: Pittsfield, North Hampton, Holyoke, Springfield, Southbridge, Danielson, Manchester, and a portion of Northern Connecticut. Figure A1 depicts the 1997 pilot test zones. The tan shaded area is the control zone and the blue shaded area is the control zone. The Boston NRD test zones were primarily chosen based on the similarities in their urban/rural mix.

In August 1997, the Boston study recruiters in both the experimental and control zones were equipped with laptops, e-mail accounts, software, and cell phones; training was provided to the recruiters on the use of all equipment; and a baseline measurement with the survey instrument was taken. Additional training continued throughout the rest of 1997, and a 6-month survey was administered in March 1998. Finally, a 12-month survey was administered in September 1998.

By September 1998 it was becoming increasingly apparent that the Boston pilot study would not provide the necessary data to ascertain the impact of technology on recruiter productivity. This was evident from the number of surveys completed and returned over the period from August 1997 to September 1998, with only 9 surveys returned from Zone 5 and 19 surveys returned from Zone 6. The low participation in the Boston study was primarily attributed to the lack of command buy-in. Confusion on the part of study participants and management as to the potential benefits of technology, the study objectives, and their responsibilities were cited as the primary contributors to low participation, (Chipman, 1999). Other factors that contributed to the low participation included the fact that the equipment was not operating smoothly prior to distribution and that the recruiters received insufficient training in the use of the software.

As a result of the lessons learned in the Boston study a second test site was chosen, the San Diego Navy Recruiting District. It was believed that the close proximity of the San Diego NRD to NRPDC would allow for increased supervision and coordination between the Recruiters and NPRDC researchers.

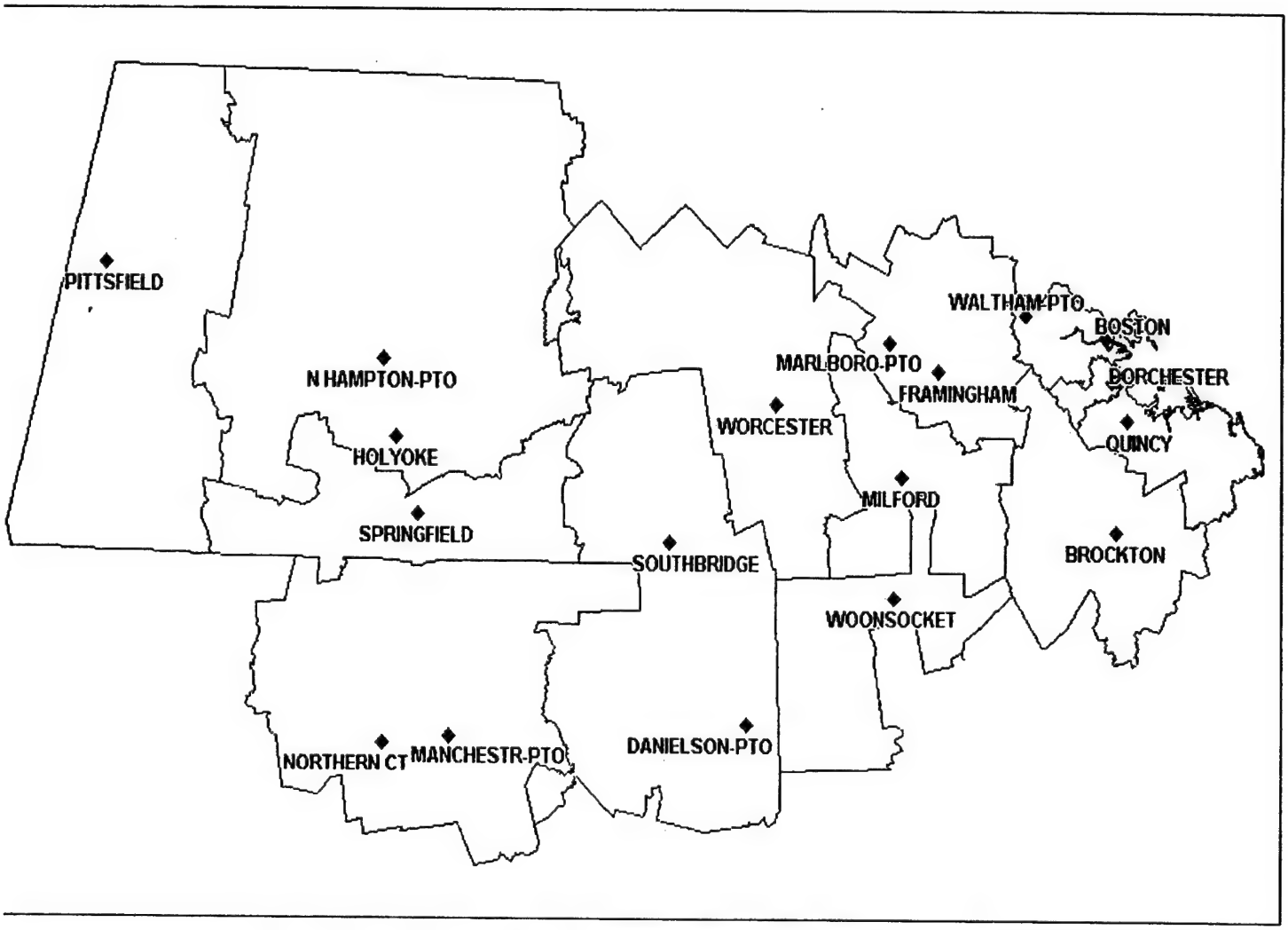
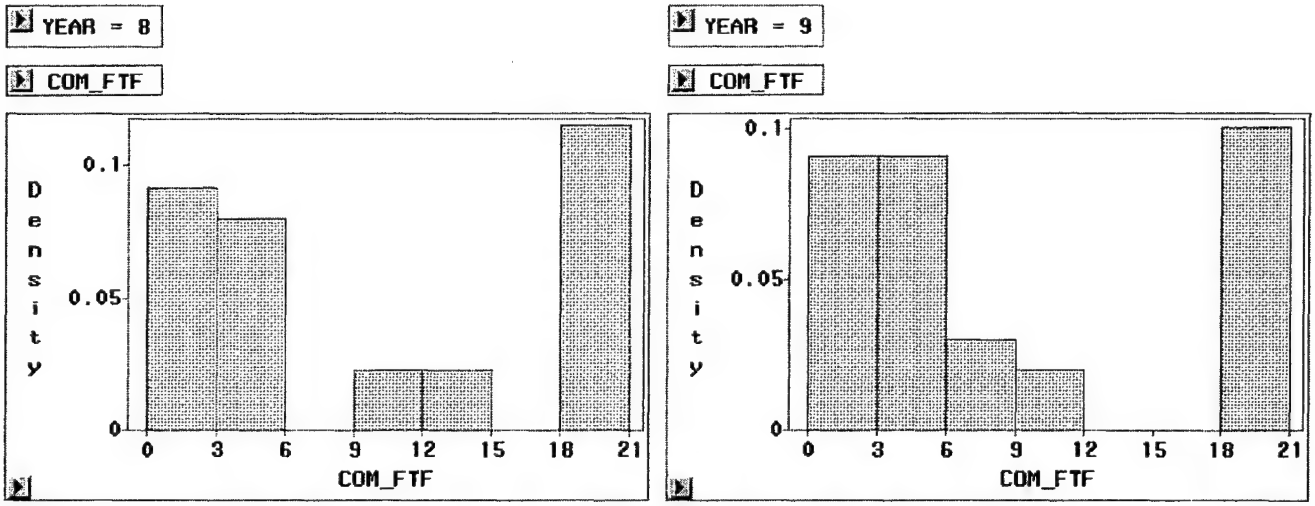


Figure A-1. Area Map of Experimental and Control Zones.

Appendix B:
Statistical Techniques

The ability of certain statistical procedures to allow reasonable inferences to be made from the data depends upon the structure and qualities of the data. When the sample size is low, many 'parametric' statistical procedures such as the t-Test of Means require that the population from which the sample is drawn be normally distributed. Therefore, proper statistical practice requires a substantiation of the normality assumption by statistical methods. Federal guidelines specify that for research submitted to United States Federal agencies, validity of the assumptions behind statistical models must be justified before such models can be adopted (Bowerman, 1997 #3, p.503).

The standard method for substantiation of the normality assumption involves graphical methods, such as a histogram of the sample data, or statistical tests for normality. The following output illustrates both of these methods for the responses from survey question 14A, the variable COM_FTF. The baseline surveys, taken in 1998, are grouped into "Year = 8" and the after-technology surveys are grouped into "Year = 9." The purpose of the current test is to determine if these samples were drawn from a normal distribution, which is symmetrically mound-shaped. See Figure A2.



Moments			
N	29.0000	Sum Wgts	29.0000
Mean	9.8448	Sum	285.5000
Std Dev	7.8206	Variance	61.1626
Skewness	0.2691	Kurtosis	-1.7846
USS	4523.2500	CSS	1712.5517
CV	79.4392	Std Mean	1.4523

Tests for Normality		
Test Statistic	Value	p-value
Shapiro-Wilk	0.783600	0.0000
Kolmogorov-Smirnov	0.236333	<.0100
Cramer-von Mises	0.361723	<.0050
Anderson-Darling	2.436240	<.0050

Moments			
N	33.0000	Sum Wgts	33.0000
Mean	9.0152	Sum	297.5000
Std Dev	7.4335	Variance	55.2576
Skewness	0.5727	Kurtosis	-1.4199
USS	4450.2500	CSS	1768.2424
CV	82.4561	Std Mean	1.2940

Tests for Normality		
Test Statistic	Value	p-value
Shapiro-Wilk	0.779760	0.0000
Kolmogorov-Smirnov	0.227304	<.0100
Cramer-von Mises	0.437750	<.0050
Anderson-Darling	2.879111	<.0050

Figure A-2: Distribution of Sample Data

As is clear from the histograms, this data does not have the characteristic symmetric mound shape. Further, the tests for normality reject the null hypothesis that the data were drawn from a normally distributed population. The indication of the rejection of the null hypothesis that the population is Normal, a 'p-value' of less than 0.1, is consistent for both samples.

Non-Parametric Statistical Techniques

Since the assumption of a normally distributed population has not been justified, the researcher is restricted to use of statistical techniques that do not require a normally distributed population. The class of techniques known as NonParametric Techniques has specific tests that allow inferences in the absence of a normally distributed population. The Wilcoxon Two-Sample test is in this class of techniques, which can be used in such cases to compare the distributions of two populations.

The parametric t-Test of Means compares the means of the distributions, and the conclusions from the test relate specifically to the mean as one of the measures of the "middle" of the distributions. The Wilcoxon Test, by contrast, does not focus upon a single measure of the middle of the distribution, but rather looks across the whole distribution. If a parametric t-Test indicated that the mean of Distribution A was greater than the mean of Distribution B, an equivalent conclusion in the Wilcoxon Test would state that Distribution A lies to the right of Distribution B. Because these distributions are graphed on a number line, a distribution, which lies to the right generally has, values larger than the other distribution (Bowerman, 1997 #3).

Appendix C:
Navy Survey of the Remote Recruiting Experiment

NAVY SURVEY OF NEW PARTICIPANTS IN THE REMOTE RECRUITING EXPERIMENT Feb/Mar 1999

Navy Personnel Research & Development Center
San Diego, California 92152-7250

You have been selected to take part in this survey based on your participation in the REMOTE Recruiting Experiment, either as a member of the experimental zone or the control zone. Your participation in this survey is voluntary. Since the survey population is small, groups with less than eight respondents will not be reported to protect anonymity.

Please take the time to answer these questions; your opinions are very important and will have a significant impact on the success of the experiment and further implementation of the REMOTE Recruiting environment throughout Navy Recruiting. It should take about thirty minutes to complete this survey.

PRIVACY ACT STATEMENT

Authority to request this information is granted under Title 5, U.S. Code 301 and Department of the Navy Regulations.

PURPOSE: The purpose of this questionnaire is to collect data to evaluate existing and proposed Navy personnel policies, procedures, and programs.

ROUTINE USES: The information provided in this questionnaire will be analyzed by the Navy Personnel Research and Development Center, where the data files will be maintained.

ANONYMITY: All responses will be kept secure by the Navy Personnel Research and Development Center. Information that you provide will be reported only when statistically summarized with the responses of others, and the responses of no individual will be identified.

PARTICIPATION: Completion of this questionnaire is entirely voluntary. Failure to respond to any of the questions will NOT result in any penalties except that your view will not be represented in the final report.

IMPORTANT INSTRUCTIONS

Please circle the letter or number signifying your response. Where indicated, clearly write your numeric answer to the question. Erase cleanly and completely any changes you make. If a question does not apply to you, skip the question.

If you have any questions, you may contact:

Lisa Springer
(619) 553-7924 or DSN 553-7924
e-mail: springer@nprdc.navy.mil

THANK YOU FOR YOUR TIME AND EFFORT!

I. RECRUITING LIFE

1. Which recruiting zone are you currently assigned to?

[a] Zone 1
[b] Zone 2
[c] Zone 3
[d] Zone 4
[e] Zone 5
[f] Zone 6

2. Which of the following best describes your current job?

[a] Recruiter in charge
[b] Production recruiter
[c] Chief recruiter
[d] Zone Supervisor
[e] Other _____

3. How long have you been assigned to recruiting duty?

[a] Less than one year
[b] 1 year but less than 2
[c] 2 years but less than 3
[d] 3 years but less than 6
[e] More than 6 years

4. At what type of recruiting station do you work?

[a] Full-time NRS
[b] Part-time office (PTO)
[c] Satellite

5. How many recruiters work at your recruiting station, including the RINC?

[a] One
[b] Two
[c] Three
[d] Four
[e] Five or more

6. How long have you been at this recruiting station?

[a] Less than 1 month
[b] More than 1 but less than 3 months
[c] More than 3 but less than 6 months
[d] More than 6 but less than 9 months
[e] More than 9 but less than 12 months
[f] More than 12 but less than 24 months
[g] More than 24 but less than 36 months
[h] More than 36 months

7. How many times have you been switched to different recruiting zones during this tour?

[a] Zero
[b] One
[c] Two
[d] Three or more

8. What is the total number of hours you spend performing duty-related tasks in a typical week?

[a] 40 or less
[b] 41-50
[c] 51-60
[d] 61-70
[e] 71-80
[f] More than 80

9. What are your work hours (start & finish)?

Start _____ Finish _____

10. What is the average ONE-WAY driving time from your residence to your recruiting station?

[a] Less than 15 minutes
[b] 15-30 minutes
[c] 31-45 minutes
[d] 46-60 minutes
[e] More than 1 hour

11. How many times per week do you drive to your recruiting station? _____

12. How many hours per week do you spend in the recruiting station? _____

13. How many hours per week do you spend working out of your home? _____

14. How many times per week do you communicate with your supervisor ...

a. face to face?	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19+
b. by phone?	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19+
c. by e-mail?	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19+

15. *Skip if you are not a supervisor.* How many times per week do you communicate with those that you supervise ...

a. face to face?	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19+
b. by phone?	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19+
c. by e-mail?	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19+

16. How many times per week do you communicate with other recruiters ...

a. face to face?	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19+
b. by phone?	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19+
c. by e-mail?	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19+

17. Approximately how much are your average monthly out-of-pocket expenses for recruiting activities?

[a] Within the OPE allowance ($60 or less)
[e] $75-79

[b] $61-64
[c] $65-69
[d] $70-74
[f] $80-84
[g] $85-100
[h] Over $100

18. Which of the following would best describe your recruiting market?

[a] Does not apply (I am not a production recruiter)
[b] Urban/Metro
[c] More urban than rural
[d] Half urban/Half rural
[e] More rural than urban
[f] Rural

19. Approximately how many high school seniors are there in ...

a. your recruiting market?

[a] Less than 500
[b] 501 to 1,000
[c] 1,001 to 2,000
[d] 2,001 to 3,000
[e] More than 3,000

b. your station's recruiting market?

[a] Less than 1,000
[b] 1,000 to 2,000
[c] 2,001 to 4,000
[d] 4,001 to 6,000
[e] More than 6,000

20. In general, are you invited to Career Day at the high schools in your recruiting market?

[a] Yes
[b] No
[c] Does not apply

21. During the last six months, how many times on average have you prospected in the following places each month?

a. Schools	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17+
b. Shopping malls	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17+
c. Sporting events	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17+
d. Community events	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17+
e. Special Navy events	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17+
f. Fast food restaurants	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17+
g. Internet	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17+
h. Unemployment office	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17+

22. How much time per day on average do you spend on phone power?

[a] None
[b] Less than 1 hour
[c] 1-2 hours
[d] 2-3 hours
[e] 3-4 hours
[f] 4-5 hours
[g] 5-6 hours
[h] More than 6 hours

23. When do you do your phone power (please circle all that apply)?

[a] Early morning (before 0930)
[d] Afternoon (1430-1659)

[b] Morning (0930-1159)
[c] Early afternoon (1200-1429)
[e] Early evening (1700-1929)
[f] Evening (after 1930)

24. Where do you do your phone power?

[a] Home
[b] Recruiting station
[c] Other _____

25. How much time per day do you spend in face to face contact with prospects?

[a] None
[b] Less than 1 hour
[c] 1-2 hours
[d] 2-3 hours
[e] 3-4 hours
[f] 4-5 hours
[g] 5-6 hours
[h] More than 6 hours

26. How much time per day do you spend communicating with DEPers?

[a] None
[b] Less than 1 hour
[c] 1-2 hours
[d] 2-3 hours
[e] 3-4 hours
[f] 4-5 hours
[g] 5-6 hours
[h] More than 6 hours

27. How much time per day do you spend using RTOOLS?

[a] None
[b] Less than 1 hour
[c] 1-2 hours
[d] 2-3 hours
[e] 3-4 hours
[f] 4-5 hours
[g] 5-6 hours
[h] More than 6 hours

28. How much time per day do you spend locating information in the Enlisted Recruiting Manual?

[a] Less than 15 minutes
[b] 15-30 minutes
[c] 31-45 minutes
[d] 46-60 minutes
[e] 61-75 minutes
[f] 76-90 minutes
[g] More than 90 minutes

29. How many times per week do you access the NRD bulletin board?

[a] Zero
[b] 1-2
[c] 3-4
[d] 5-6
[e] 7-8
[f] 9-10
[g] More than 10

30. On average, how many hours per week is your laptop not working?

[a] Zero
[e] 7-8

[b] 1-2
[c] 3-4
[d] 5-6
[f] 9-10
[g] 11-12
[h] More than 12

31. Using a laptop, how many sales presentations do you give per week to groups, individual prospects, and prospects and their families?

a. Groups	0	1	2	3	4	5	6	7	8+
b. Individual prospects	0	1	2	3	4	5	6	7	8+
c. Prospects and their families	0	1	2	3	4	5	6	7	8+

32. How many sales presentations do you give per week to groups, individual prospects, and prospects and their families without using a laptop?

a. Groups	0	1	2	3	4	5	6	7	8+
b. Individual prospects	0	1	2	3	4	5	6	7	8+
c. Prospects and their families	0	1	2	3	4	5	6	7	8+

33. Using a laptop, how much time do you spend giving sales presentations to groups, individual prospects, and prospects and their families?

[a] None
[b] Less than 1 hour
[c] 1-2 hours
[d] 2-3 hours
[e] 3-4 hours
[f] 4-5 hours
[g] 5-6 hours
[h] 7-8 hours
[i] 9-10 hours
[j] More than 10 hours

34. How much time per week do you spend giving sales presentations to groups, individual prospects, and prospects and their families without using a laptop?

[a] None
[b] Less than 1 hour
[c] 1-2 hours
[d] 2-3 hours
[e] 3-4 hours
[f] 4-5 hours
[g] 5-6 hours
[h] 7-8 hours
[i] 9-10 hours
[j] More than 10 hours

35. What is the most frequent reason your prospects give for wanting to join the Navy?

[a] Adventure
[b] Patriotism
[c] Steady job with good pay and benefits
[d] Navy skill training
[e] Preparation for civilian career
[f] Personal growth
[g] Other _____

36. Which of the following are most critical to your success in recruiting? Please select three and rank them by writing 1 next to the most critical, 2 next to the second most critical, and 3 next to the third most critical.

_____[a] Goaling
_____[b] Administrative procedures
_____[i] National advertising
_____[j] Local advertising

_____[c] Support (e.g., cars. telephone, computers)
_____[d] Leadership/Supervision
_____[e] Family preparation and support
_____[f] Recruiter selection
_____[g] Formal training
_____[h] On -the-job training
_____[k] Promotional items
_____[l] Education benefits for prospects
_____[m] Office environment
_____[n] Virtual office environment
_____[o] MEPS
_____[p] Sales tools

37. Which of the following areas are most in need of improvement? Please select three and rank them by writing 1 next to the most critical, 2 next to the second most critical, and 3 next to the third most critical.

_____[a] Goaling
_____[b] Administrative procedures
_____[c] Support (e.g., cars. telephone, computers)
_____[d] Leadership/Supervision
_____[e] Family preparation and support
_____[f] Recruiter selection
_____[g] Formal training
_____[h] On-the-job training
_____[i] National advertising
_____[j] Local advertising
_____[k] Promotional items
_____[l] Education benefits for prospects
_____[m] Office environment
_____[n] Virtual office environment
_____[o] MEPS
_____[p] Sales tools

38. Are you losing qualified applicants to other Services?

[a] Yes, to the Air Force
[b] Yes, to the Army
[c] Yes, to the Coast Guard
[d] Yes, to the Marine Corps
[e] Yes, but don't know to which service
[f] No

39. If yes, do you think the reason may be that another Service has better: (Mark all that apply.)

[a] Cash bonus incentives
[b] Quality of life
[c] Educational benefits
[d] Image
[e] Length of contract
[f] Advertising
[g] Promotional items
[h] Skill training
[i] Sales tools
[j] Other _____

40. How long do you think it takes new recruiters to get up to speed once they arrive at their new recruiting stations?

[a] Under 3 month
[b] More than 3 but less than 6 months
[c] More than 6 but less than 9 months
[d] More than 9 but less than 12 months
[e] More than 12 but less than 18 months
[f] More than 18 but less than 24 months
[g] More than 24 months

Indicate your agreement or disagreement with the following statements:

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Generally Agree	Strongly Agree
41. The morale of the recruiters I work with is good.	1	2	3	4	5	6	7
42. I would appreciate MORE supervision on the job.	1	2	3	4	5	6	7
43. My working hours leave me enough time for my personal life.	1	2	3	4	5	6	7
44. There is a real feeling of teamwork in my zone.	1	2	3	4	5	6	7
45. As a recruiter, I am trusted and respected by my chain of command.	1	2	3	4	5	6	7
46. I feel much stress in my job.	1	2	3	4	5	6	7
47. I receive good support from my supervisors.	1	2	3	4	5	6	7
48. My recruiting office is conveniently located and accessible to potential applicants.	1	2	3	4	5	6	7
49. To do a better job of recruiting, I need to spend MORE time in the recruiting station.	1	2	3	4	5	6	7
50. I DO NOT have adequate access to my recruiting station.	1	2	3	4	5	6	7
51. From my observation, I am as well prepared and supported as recruiters from the other Services.	1	2	3	4	5	6	7
52. There is adequate telephone service at my station for me to do my job.	1	2	3	4	5	6	7
53. A vehicle is always available when I need it.	1	2	3	4	5	6	7
54. The mileage restriction placed on government vehicles interferes with my ability to do my job.	1	2	3	4	5	6	7
55. I have to spend too much time in my car ("windshield time").	1	2	3	4	5	6	7
56. My monthly goals are achievable.	1	2	3	4	5	6	7
57. I am able to use my judgment as to the best method for recruiting in my assigned area.	1	2	3	4	5	6	7
58. DEP events help me to achieve my goals.	1	2	3	4	5	6	7
59. Required paperwork interferes with my efforts	1	2	3	4	5	6	7

to make goal.

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Generally Agree	Strongly Agree
60. I have the freedom to personally plan my work.	1	2	3	4	5	6	7
61. To do a better job of recruiting, I should spend MORE time prospecting.	1	2	3	4	5	6	7
62. I can talk to seniors at my high school any time.	1	2	3	4	5	6	7
63. My schools make high school directory information available to me.	1	2	3	4	5	6	7
64. I am invited to speak to classes on military topics (e.g., military history) in my schools.	1	2	3	4	5	6	7
65. High school lists/student directories are NOT important lead sources for attaining my NPS recruiting goals.	1	2	3	4	5	6	7
66. Having a laptop computer helps me make goal.	1	2	3	4	5	6	7
67. Having RTOOLS DOES NOT help me make goal.	1	2	3	4	5	6	7
68. Having my own car can make me a better recruiter.	1	2	3	4	5	6	7
69. Having a cell phone/beeper can make me a better recruiter.	1	2	3	4	5	6	7
70. Having my own portable printer and scanner can make me a better recruiter.	1	2	3	4	5	6	7
71. Having an e-mail account CANNOT make me a better recruiter.	1	2	3	4	5	6	7
72. Having access to an electronic version of the enlisted recruiting manual can make me a better recruiter.	1	2	3	4	5	6	7
73. Having a multimedia sales presentation can make me a better recruiter.	1	2	3	4	5	6	7
74. To do a better job of recruiting, I should communicate LESS with my supervisor.	[1	2	3	4	5	6	7
75. To do a better job of recruiting, I should spend MORE time at recruits' homes.	1	2	3	4	5	6	7
76. I want to participate in the REMOTE pilot study.	1	2	3	4	5	6	7
77. I am satisfied with recruiting.	1	2	3	4	5	6	7

78. I am NOT satisfied with Navy life.	1	2	3	4	5	6	7

II. PERSONAL DATA

1. What is your current pay grade?

[a] E-4
[b] E-5
[c] E-6
[d] E-7
[e] E-8
[f] E-9
[g] Officer

2. How long have you been in the Navy, including other military service?

[a] Less than 4 years
[b] More than 4 but less than 8 years
[c] More than 8 but less than 12 years
[d] More than 12 but less than 16 years
[e] More than 16 but less than 20 years
[f] More than 20 years

3. In which community are you normally assigned?

[a] Air
[b] Surface/deck
[c] Surface/hull
[d] Submarine
[e] Medical
[f] Other

4. What is your gender?

[a] Male
[b] Female

5. What is your marital status?

[a] Never married
[b] Married
[c] Legally separated
[d] Divorced
[e] Widowed

6. What is your race?

[a] White
[b] Black or African-American
[c] Indian (American) or Eskimo or Aleut
[d] Asian or Pacific Islander
[e] Other race _____

III. COMMENTS

1. **What do you believe to be the most pressing problems facing recruiters today?**

2. **What can the Navy do to help your recruiting efforts?**

3. **If you have comments that you were not able to express in answering the survey, please write them below.**

Appendix D:
Time Allocation Sheets

	1-Jul-99	2-Jul-99	3-Jul-99	4-Jul-99	5-Jul-99
MAINTAIN AWARENESS/GENERATE LEADS	0	0	0	0	0
School visits/presentations	0	0	0	0	0
- High school					
- Community college					
Job fairs					
Other time spent in community					
PROSPECT FOR APPLICANTS	0	0	0	0	0
Contact leads/Schedule interviews					
Interview applicants					
Follow-up meetings (letters, phone calls)					
Maintain 'P-cards'					
PROCESS APPLICANTS	0	0	0	0	0
Prepare enlistment forms					
Schedule ASVAB and physical					
Ship accessions					
MANAGERIAL MEETINGS (includes DPR)					
ADMINISTRATION/PAPERWORK					
TRAVEL TIME					
TRAINING					
DEP MANAGEMENT ACTIVITIES					
OTHER ACTIVITIES					
PT					
LEAVE/HOLIDAY					
TOTAL	0	0	0	0	0
****ADDITIONAL INFORMATION****					
COMPUTER USAGE	0	0	0	0	0
Number of hours used					
Hardware/software training					
Downtime					
TIME SPENT ...	0	0	0	0	0
At home					
In the office					
In the field					

	6-Jul-99	7-Jul-99	8-Jul-99	9-Jul-99	10-Jul-99
MAINTAIN AWARENESS/GENERATE LEADS	0	0	0	0	0
School visits/presentations	0	0	0	0	0
- High school					
- Community college					
Job fairs					
Other time spent in community					
PROSPECT FOR APPLICANTS	0	0	0	0	0
Contact leads/Schedule interviews					
Interview applicants					
Follow-up meetings (letters, phone calls)					
Maintain 'P-cards'					
PROCESS APPLICANTS	0	0	0	0	0
Prepare enlistment forms					
Schedule ASVAB and physical					
Ship accessions					
MANAGERIAL MEETINGS (includes DPR)					
ADMINISTRATION/PAPERWORK					
TRAVEL TIME					
TRAINING					
DEP MANAGEMENT ACTIVITIES					
OTHER ACTIVITIES					
PT					
LEAVE/HOLIDAY					
TOTAL	0	0	0	0	0
****ADDITIONAL INFORMATION****					
COMPUTER USAGE	0	0	0	0	0
Number of hours used					
Hardware/software training					
Downtime					
TIME SPENT ...	0	0	0	0	0
At home					
In the office					
In the field					

	11-Jul-99	12-Jul-99	13-Jul-99	14-Jul-99	15-Jul-99
MAINTAIN AWARENESS/GENERATE LEADS	0	0	0	0	0
School visits/presentations	0	0	0	0	0
- High school					
- Community college					
Job fairs					
Other time spent in community					
PROSPECT FOR APPLICANTS	0	0	0	0	0
Contact leads/Schedule interviews					
Interview applicants					
Follow-up meetings (letters, phone calls)					
Maintain 'P-cards'					
PROCESS APPLICANTS	0	0	0	0	0
Prepare enlistment forms					
Schedule ASVAB and physical					
Ship accessions					
MANAGERIAL MEETINGS (includes DPR)					
ADMINISTRATION/PAPERWORK					
TRAVEL TIME					
TRAINING					
DEP MANAGEMENT ACTIVITIES					
OTHER ACTIVITIES					
PT					
LEAVE/HOLIDAY					
TOTAL	**0**	**0**	**0**	**0**	**0**
****ADDITIONAL INFORMATION****					
COMPUTER USAGE	0	0	0	0	0
Number of hours used					
Hardware/software training					
Downtime					
TIME SPENT ...	0	0	0	0	0
At home					
In the office					
In the field					

	16-Jul-99	17-Jul-99	18-Jul-99	19-Jul-99	20-Jul-99
MAINTAIN AWARENESS/GENERATE LEADS	0	0	0	0	0
School visits/presentations	0	0	0	0	0
- High school					
- Community college					
Job fairs					
Other time spent in community					
PROSPECT FOR APPLICANTS	0	0	0	0	0
Contact leads/Schedule interviews					
Interview applicants					
Follow-up meetings (letters, phone calls)					
Maintain 'P-cards'					
PROCESS APPLICANTS	0	0	0	0	0
Prepare enlistment forms					
Schedule ASVAB and physical					
Ship accessions					
MANAGERIAL MEETINGS (includes DPR)					
ADMINISTRATION/PAPERWORK					
TRAVEL TIME					
TRAINING					
DEP MANAGEMENT ACTIVITIES					
OTHER ACTIVITIES					
PT					
LEAVE/HOLIDAY					
TOTAL	0	0	0	0	0
****ADDITIONAL INFORMATION****					
COMPUTER USAGE	0	0	0	0	0
Number of hours used					
Hardware/software training					
Downtime					
TIME SPENT ...	0	0	0	0	0
At home					
In the office					
In the field					

	21-Jul-99	22-Jul-99	23-Jul-99	24-Jul-99	25-Jul-99
MAINTAIN AWARENESS/GENERATE LEADS	0	0	0	0	0
School visits/presentations	0	0	0	0	0
- High school					
- Community college					
Job fairs					
Other time spent in community					
PROSPECT FOR APPLICANTS	0	0	0	0	0
Contact leads/Schedule interviews					
Interview applicants					
Follow-up meetings (letters, phone calls)					
Maintain 'P-cards'					
PROCESS APPLICANTS	0	0	0	0	0
Prepare enlistment forms					
Schedule ASVAB and physical					
Ship accessions					
MANAGERIAL MEETINGS (includes DPR)					
ADMINISTRATION/PAPERWORK					
TRAVEL TIME					
TRAINING					
DEP MANAGEMENT ACTIVITIES					
OTHER ACTIVITIES					
PT					
LEAVE/HOLIDAY					
TOTAL	**0**	**0**	**0**	**0**	**0**
****ADDITIONAL INFORMATION****					
COMPUTER USAGE	0	0	0	0	0
Number of hours used					
Hardware/software training					
Downtime					
TIME SPENT ...	0	0	0	0	0
At home					
In the office					
In the field					

	26-Jul-99	27-Jul-99	28-Jul-99	29-Jul-99	30-Jul-99
MAINTAIN AWARENESS/GENERATE LEADS	0	0	0	0	0
School visits/presentations	0	0	0	0	0
- High school					
- Community college					
Job fairs					
Other time spent in community					
PROSPECT FOR APPLICANTS	0	0	0	0	0
Contact leads/Schedule interviews					
Interview applicants					
Follow-up meetings (letters, phone calls)					
Maintain 'P-cards'					
PROCESS APPLICANTS	0	0	0	0	0
Prepare enlistment forms					
Schedule ASVAB and physical					
Ship accessions					
MANAGERIAL MEETINGS (includes DPR)					
ADMINISTRATION/PAPERWORK					
TRAVEL TIME					
TRAINING					
DEP MANAGEMENT ACTIVITIES					
OTHER ACTIVITIES					
PT					
LEAVE/HOLIDAY					
TOTAL	0	0	0	0	0
****ADDITIONAL INFORMATION****					
COMPUTER USAGE	0	0	0	0	0
Number of hours used					
Hardware/software training					
Downtime					
TIME SPENT ...	0	0	0	0	0
At home					
In the office					
In the field					

	31-Jul-99	TOTAL
MAINTAIN AWARENESS/GENERATE LEADS	0	0
School visits/presentations	0	0
- High school		0
- Community college		0
Job fairs		0
Other time spent in community		0
PROSPECT FOR APPLICANTS	0	0
Contact leads/Schedule interviews		0
Interview applicants		0
Follow-up meetings (letters, phone calls)		0
Maintain 'P-cards'		0
PROCESS APPLICANTS	0	0
Prepare enlistment forms		0
Schedule ASVAB and physical		0
Ship accessions		0
MANAGERIAL MEETINGS (includes DPR)		0
ADMINISTRATION/PAPERWORK		0
TRAVEL TIME		0
TRAINING		0
DEP MANAGEMENT ACTIVITIES		0
OTHER ACTIVITIES		0
PT		0
LEAVE/HOLIDAY		0
TOTAL	0	0
****ADDITIONAL INFORMATION****		
COMPUTER USAGE	0	0
Number of hours used		0
Hardware/software training		0
Downtime		0
TIME SPENT ...	0	0
At home		0
In the office		0
In the field		0

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